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Report on a Fossil Diatomaceous Deposit in Muscatine County, Iowa

P. C. Myers

The fourth division, that of fossil diatoms in Iowa, is reserved for another paper.

The number of counties in the state which have been visited by the author, and those from which material has been received, number twenty-nine.* At some future time we expect to present to the people of Iowa who are interested in this work, a descriptive list of all the species of diatoms found, with a photograph of each.

REPORT ON A FOSSIL DIATOMACEOUS DEPOSIT IN MUSCATINE COUNTY, IOWA

BY P. C. MYERS.

Previous to the present year no fossil diatoms had been found in Iowa. On October 20, 1898, Prof. J. A. Udden, of Rock Island, Ill., while engaged in work for the Iowa Geological survey, found and sent to Prof. S. Calvin, of the State University, some diatomaceous earth. This material was taken from below the loess in Muscatine county, Iowa, and was turned over to the author for examination. It was of a dull, yellow color, composed of sand and decayed vegetable matter and a few diatoms.

The species, with their general distribution and habitat, are as follows:

Navicula abaujenssis Paut. Fresh water fossil in Hungary.

Navicula borealis (Ehr.) Kuetz. In fresh water, cataracts, rivers and wet moss, all over Europe and America.

Navicula gibba (Ehr.) Kuetz. Everywhere in fresh water.

Navicula major Kuetz. A cosmopolitan species in fresh water.

Navicula nobilis (Ehr.) Kuetz., var. dactylus (Ehr.) V. H. In bogs and fossil.

Navicula rupestris (Pinn.) Hantz. On wet rocks.

Navicula placentula (Ehr.) Kuetz. In rivers in Europe and America; also fossil and marine.

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*As there are many places in the state still unexplored, I desire at this time to say to the members of the Academy that I should be glad of their co-operation in this matter.

Eunotia diodon (Ehr.). Rivers, springs, rapids, on wet rocks and fossil.

Eunotia gracilis (Ehr.) Rabeuh. In boggy, swampy places.

Eunotia major (Wm. Sm.) Rabeuh. In fresh water everywhere.

Stauroners phoenecemteron (Nitz.) Ehr. Cosmopolitan.

Cystopleura gibba (Ehr.) Kunze. Common in fresh water; also fossil and marine.

Cymbella cymbiformis (Kuetz.) Breb., var. parva (Wm. Sm.) V. H. Common everywhere in fresh water.

Hantzschia amphyoxis (Ehr.) Grun. Common everywhere in fresh water.

Judging from the above and from evidence which does not appear here, *i. e.*, the comparative number of individuals in each species, the condition was probably that of a shallow bog, subject to gentle overflows from some creek or river.

DIATOMACEOUS EARTH IN MUSCATINE COUNTY.

BY J. A. UDDEN.

While at work on the geology of Muscatine county last summer, the writer found some diatomaceous earth in the south bank of the creek which runs west near the south line of section fourteen, in Cedar township. It is associated with a peaty layer, which overlies it, and which appears somewhat disturbed. This peat is overlain by fine laminated sand and silt, which here forms the base of the loess. Below the peat bed and the diatomaceous layer there is a white sand without a trace of ferruginous stains. Boggy conditions are indicated, or perhaps the conditions of a lake or pond. The diatomaceous earth itself does not lie in a continuous layer, but in a broken layer, or in small pockets, which are scattered. It has a peculiar dull, pink color, and this has lately enabled the writer to find small lumps of it in the peaty soil under the loess in Scott county, near Davenport. It was from this loess that the remains of a mastodon have been reported by Mr. Pratt.